

electrical characteristics at 25°C case temperature (unless otherwise noted)

PARAMETER		TEST CONDITIONS			MIN	TYP	MAX	UNIT
I_{DRM}	Repetitive peak off-state current	$V_D = \text{rated } V_{DRM}$	$R_{GK} = 1 \text{ k}\Omega$	$T_C = 110^\circ\text{C}$			400	μA
I_{RRM}	Repetitive peak reverse current	$V_R = \text{rated } V_{RRM}$	$I_G = 0$	$T_C = 110^\circ\text{C}$			1	mA
I_{GT}	Gate trigger current	$V_{AA} = 12 \text{ V}$	$R_L = 100 \Omega$	$t_{p(g)} \geq 20 \mu\text{s}$	0.2	0.5	1	mA
V_{GT}	Gate trigger voltage	$V_{AA} = 12 \text{ V}$	$R_L = 100 \Omega$	$T_C = -40^\circ\text{C}$			1.2	V
		$t_{p(g)} \geq 20 \mu\text{s}$	$R_{GK} = 1 \text{ k}\Omega$					
		$V_{AA} = 12 \text{ V}$	$R_L = 100 \Omega$		0.4	0.6	1	
		$t_{p(g)} \geq 20 \mu\text{s}$	$R_{GK} = 1 \text{ k}\Omega$		0.2			
I_H	Holding current	$V_{AA} = 12 \text{ V}$	$R_{GK} = 1 \text{ k}\Omega$	$T_C = -40^\circ\text{C}$		3.5	15	mA
		Initiating $I_T = 20 \text{ mA}$				2	10	
		$V_{AA} = 12 \text{ V}$	$R_{GK} = 1 \text{ k}\Omega$					
		Initiating $I_T = 20 \text{ mA}$						
V_T	On-state voltage	$I_T = 5 \text{ A}$	(see Note 6)			1.3	1.7	V
dv/dt	Critical rate of rise of off-state voltage	$V_D = \text{rated } V_D$	$R_{GK} = 1 \text{ k}\Omega$	$T_C = 110^\circ\text{C}$		20		V/ μs

NOTE 6: This parameter must be measured using pulse techniques, $t_p = 300 \mu\text{s}$, duty cycle $\leq 2\%$. Voltage sensing-contacts, separate from the current carrying contacts, are located within 3.2 mm from the device body.

thermal characteristics

PARAMETER		MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction to case thermal resistance			3.5	$^\circ\text{C/W}$
$R_{\theta JA}$	Junction to free air thermal resistance			62.5	$^\circ\text{C/W}$

THERMAL INFORMATION

**AVERAGE ANODE ON-STATE CURRENT
DERATING CURVE**

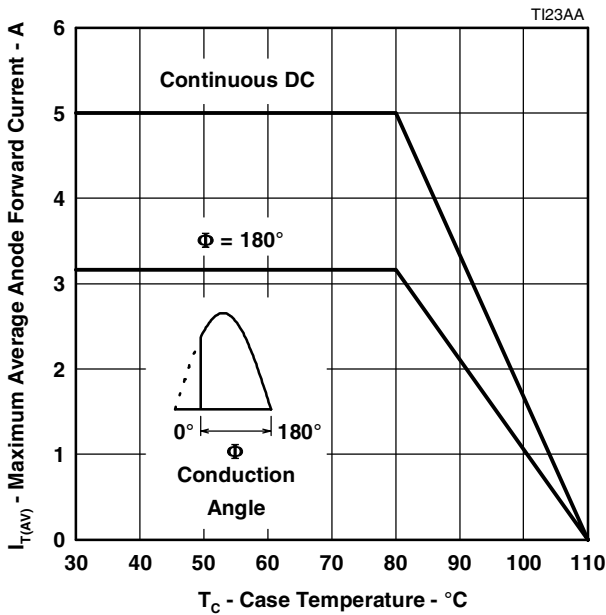


Figure 1.

**MAX ANODE POWER DISSIPATED
VS
ANODE ON-STATE CURRENT**

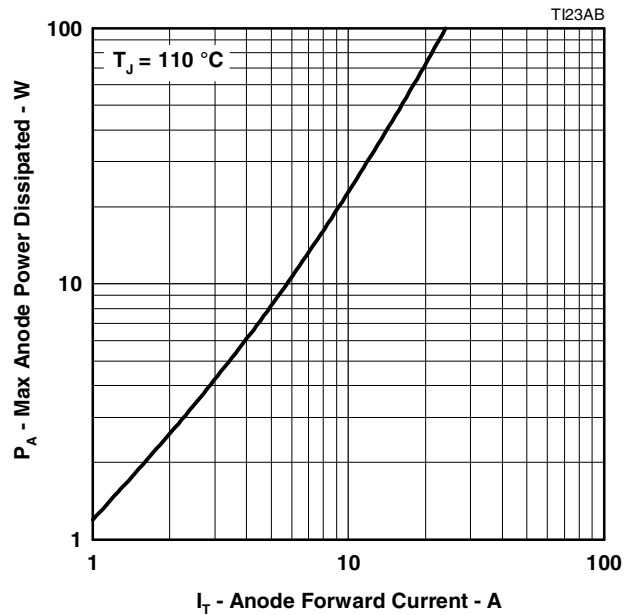


Figure 2.

**SURGE ON-STATE CURRENT
VS
CYCLES OF CURRENT DURATION**

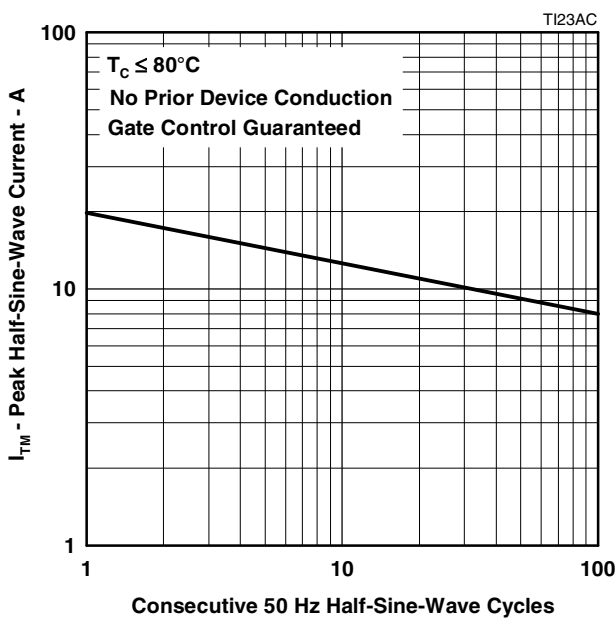


Figure 3.

**TRANSIENT THERMAL RESISTANCE
VS
CYCLES OF CURRENT DURATION**

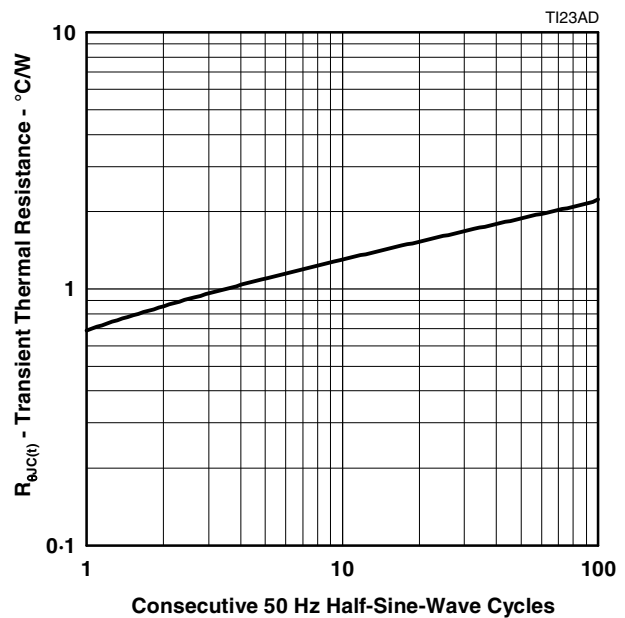


Figure 4.

PRODUCT INFORMATION

TYPICAL CHARACTERISTICS

GATE TRIGGER CURRENT
vs

CASE TEMPERATURE

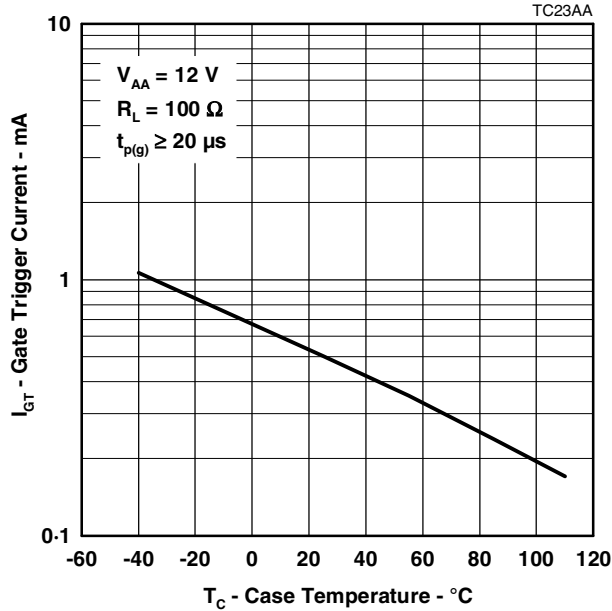


Figure 5.

GATE TRIGGER VOLTAGE
vs

CASE TEMPERATURE

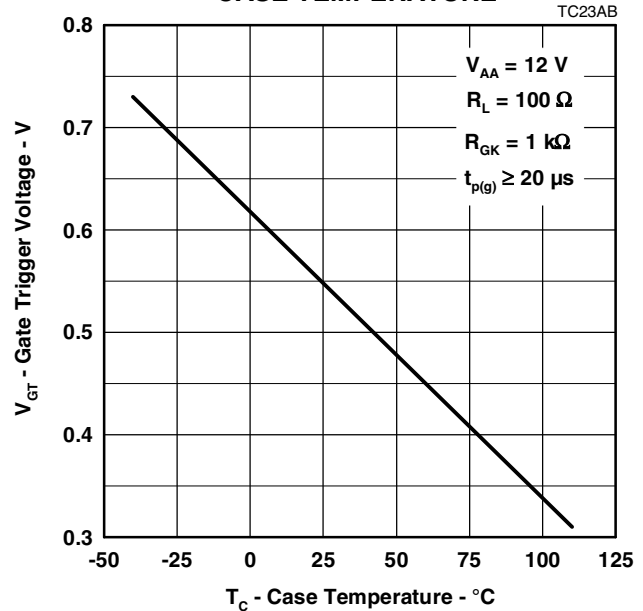


Figure 6.

HOLDING CURRENT
vs

CASE TEMPERATURE

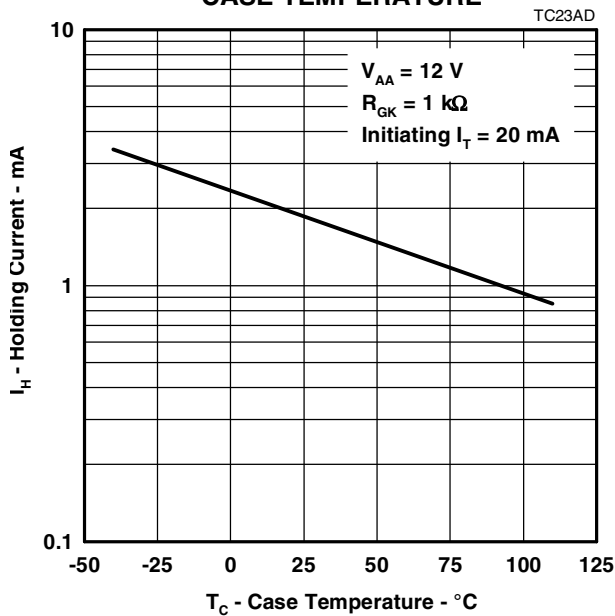


Figure 7.

PEAK ON-STATE VOLTAGE
vs

PEAK ON-STATE CURRENT

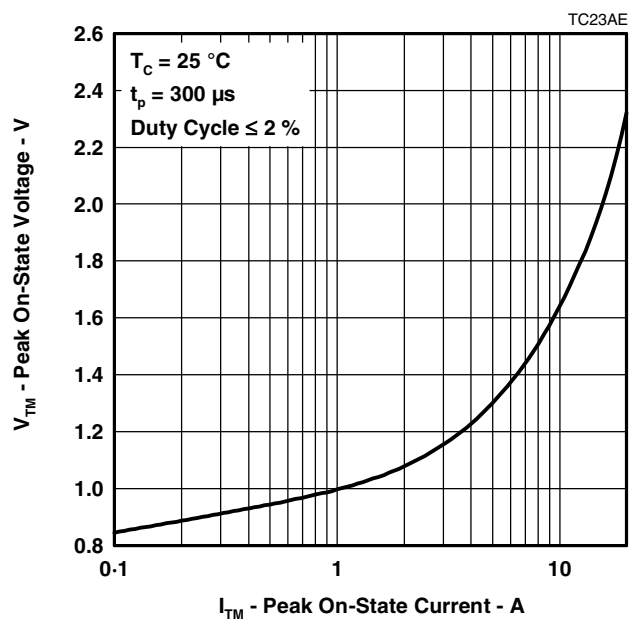


Figure 8.

PRODUCT INFORMATION